



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,991	10/19/2005	George A Limpkin	AP066-05	6578
29680	7590	04/02/2009		
DAVID A. GUERRA			EXAMINER	
INTERNATIONAL PATENT GROUP, LLC			PHILOCENTE, HAISSA	
2025 17TH AVENUE N.W.				
CALGARY, AB T2M 0S7			ART UNIT	
CANADA			PAPER NUMBER	
			2821	
			MAIL DATE	
			DELIVERY MODE	
			04/02/2009	
			PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/553,991

Applicant(s)

LIMPKIN ET AL.

Examiner

Haissa Philogene

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 44-86 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 81-83 is/are allowed.
- 6) ☒ Claim(s) 44-53, 60-64, 69, 70, 74-76, 78-80, 84 is/are rejected.
- 7) ☒ Claim(s) 54-59, 65-68, 71-73, 77, 85 and 86 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Final Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/19/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 44-47, 60, 69, 70, 78, 79 and 80 are rejected under 35 U.S.C. 102(b) as being anticipated by Huvet et al., Patent No. EP 1 063 468.

As per claims 44-47, Huvet discloses in Figs. 2, 6 and 7 an apparatus for supplying energy to a load, comprising: a power supply unit (14a) having an input (4) for receiving current at mains frequency (50 Hz), means (51, 57-59) for increasing said frequency to a higher frequency (25 kHz), and an output (36, 37) for delivering energy at said higher frequency; a two part induction connector (8) having a first core portion (12a) that has a primary winding connection (11a) connected to said output of said power supply unit and a second core portion (12b) that has a secondary winding connection (11b) for delivering energy to a load (7); and wherein said first and second core portions (12a, 12b) being of a high resistivity material (ferrite, see Col.7, line 1); wherein said first and second core portions (12a, 12b) of said induction connector (8) are adapted to mate and be disengaged one from another; wherein said means for increasing said frequency to a higher frequency is arranged to step-up said mains frequency to a frequency of 25 kHz.

As per claims 60 and 80, Huvet discloses in Fig.7 the load being a gas discharge lamp (7) with electrodes 21, 22 capable of being a fluorescent lamp, or selected from the group of consisting of lighting, submarine equipment et telecommunications (see Col.13, paragraph [0064]).

As per claims 69 and 70, Huvet discloses in Figs 2, .6 and 7 said two-part induction connector (8) being capable of providing a voltage in dependence upon the number of windings (11b) on said secondary core (12b), wherein said two-part induction connector (8) has an output voltage from said secondary connection (11b) of alternating current (AC).

As per claims 78 and 79, Huvet discloses Figs. 3, 6 and 7 a lamp (7) having formed in a housing (44) of said secondary core (12b) of said two-part induction connector (8), said lamp being in electrical connection with a winding (11b) on said secondary core (12b) in order to energize said lamp, wherein said housing (44) having at least a first and second pole pieces (not labeled) of said secondary core (12b) (see Fig.3).

As per claims 74-76, Huvet discloses said two-part induction connector (8) further comprising core portions (12a, 12b) made of ferrite being of a high resistivity, low reluctance material., and having said primary and secondary portions (11a, 11b) being formed in a toroid shape (see Figs. 6 and 7), wherein said two-part induction connector (8) is factory wound and supplied complete to meet specific loading requirements.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 84 is rejected under 35 U.S.C. 102(e) as being anticipated by Abe, Patent

No. 6,504,732.

Abe discloses in Figs.1 and 28 an apparatus for supplying energy to a load (10), comprising: a power supply unit having an input for receiving current at mains frequency (1), means for increasing said frequency to a higher frequency (4), an output V6 via transformer (5, T) for delivering energy at said higher frequency, and a primary core (5c) and winding (n1) of an inductive coupler (T); at least one load (10) having a secondary core (5d) and winding (n2) of [an] the inductive coupler (T); and a coupler (T) for removably connecting said power supply unit (3) and said load (10), said coupler (T) functioning as a transformer.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 49 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huvet et al in view of Chou et al., Patent No. 7,122,939.

Huvet discloses the claimed invention substantially as explained above except for said means for increasing said frequency to a higher frequency comprising an electronic transformer and a means for delivering a modulated DC supply at a predetermined voltage, and including a power supply selected from the group consisting of switched mode power supply and quasi mode power convertor. However, these features are well-known in the art as evidenced by Chou which discloses in Fig.1 an apparatus for supply energy to a load having means for increasing a frequency to a higher frequency comprising an electronic transformer (20) and a means (50) for delivering a modulated DC

supply at a predetermined voltage, and including a power supply being a quasi mode power convertor through the electronic transformer (20). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to employ the apparatus as taught by Chou into the Huvet type apparatus, because it would allow actuating a load with a greater output power, thereby improving the efficiency of the apparatus.

Claims 53 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huvet et al in view of Hooijer et al., Patent No. 6,667,584.

As per claim 53, Huvet discloses the claimed invention substantially as explained above except for said means for increasing said frequency to a higher frequency being an electronic ballast. Hooijer discloses an apparatus for supplying energy to a load having means for increasing a frequency to a higher frequency being an electronic ballast (see Col. 1, lines 9-13 and Col.2, lines 34-37). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to employ the electronic ballast as taught by Hooijer into the Huvet type apparatus, because it would ensure proper driving of a load, thereby maximizing the effective life of the load as a fluorescent lamp.

As per claim 62, Huvet discloses the claimed invention substantially as explained above except for the load being a plurality of lamps in series. Hooijer discloses an apparatus for supplying energy to a load having a plurality of lamps (TL1, TL2) in series (see Fig.1). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to employ the lamps as taught by Hooijer into the Huvet type apparatus, because it would allow the use of fewer components, thereby improving the efficiency and cost-effectiveness of the system.

Claims 61, 63 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huvet et al in view of Leeb et al., Patent No. 6,198,230.

Huvet discloses the claimed invention substantially as explained above except for the load being a plurality of lamps in parallel or on a wire or track, or being selected from the group consisting of an electric motor, a power supply for a computer, radio,

television and a heater. Leeb discloses in Fig. 1 an apparatus for supplying energy to a load (18) having a plurality of lamps in parallel on a wire (Fig.6c) for illumination, or being of a radio for sending information (see Col.3, lines 11-24 and 55-67) . It would have been obvious to a person having ordinary skill in the art at the time the invention was made to employ the load as taught by Leeb into the Huvet type apparatus, because it would allow the operation of one lamp in case of failure of the other parallel lamp as a means of providing illumination or allow the transmission of information as a transmitter of radiated energy for applications in RADAR sets.

Claims 50 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huvet et al in view of Chou et al., further in view of Hooijer et al.

Huvet in view of Chou discloses the claimed invention substantially as explained above. Huvet in view of Chou does not disclose an over-current protection system and a load short-circuit protection system. Hooijer discloses an apparatus for supplying energy to a load having an over-current protection system (see Col.1, lines 50-51) and a load short-circuit protection system (SSC, fig.1). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to employ the over-current protection system and the load short-circuit protection system as taught by Hooijer into the Huvet in view of Chou type apparatus, because it would allow a system for accurate, efficient, cost-effective electrode heating with detection and correction of overcurrent and short-circuit conditions.

Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huvet et al in view of Abe.

Huvel discloses the claimed invention substantially as explained above except for the means for increasing said frequency to a higher frequency being arranged to step-up said mains frequency to a frequency of 30-50 kHz. Abe discloses an apparatus for supplying energy to a load having means for increasing said frequency to a higher frequency being arranged to step-up said mains frequency to a frequency equal to or more than 20 kHz (see Col.1, lines 44-47) readable as 30-50 kHz or higher. It would have obvious to a person having ordinary skill in the art at the time the invention was made to employ the increased frequency as taught by Abe into the Huvel type apparatus, because it would allow a transformer to be low in magnetic coupling with leakage inductance so that the voltage supplied to a load can be smaller than a desired load voltage.

Allowable Subject Matter

Claims 81-83 are allowed.

Claims 54-59, 65-68, 71-73, 77, 85 and 86 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hilgert, Patent No. 4,149,133; Schuellein et al., Patent No. 6,631,064.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haissa Philogene whose telephone number is (571) 272-1827. The examiner can normally be reached on 8:30 A.M.-6:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on (571)272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Haissa Philogene/
Primary Examiner, Art Unit 2821